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KNOWLEDGE

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OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

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U.S. ARMY
ARMY STRONG.

I BAND OF BROTHERS & SISTERS

KNOWLEDGE
OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

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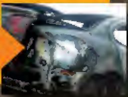

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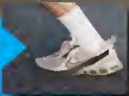

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Mission statement: The United States Army Combat Readiness/Safety Center (USACR/Safety Center) supports our Army by collecting, analyzing and communicating actionable information to assist Leaders, Soldiers, Families and Civilians in preserving/protecting our Army's combat resources.

We welcome your feedback. Please e-mail comments to **safe.knowledge@conus.army.mil**.

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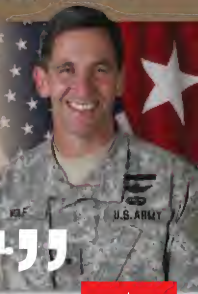
KEEPING SAFETY

The end of summer is drawing near, and many of our Soldiers and Families will be busy these next few weeks with last-minute vacation plans, back-to-school activities or, for some, preparations for another rotation to theater. During these hectic days, every minute counts — but we can't let our guard down when it comes to safety.

It's a well-known fact that off-duty vehicle crashes claim more of our Soldiers every year than any other accident cause, and this year's trend is no exception. Over the four-day Memorial Day weekend, our Army lost five Soldiers to off-duty vehicle accidents: three on motorcycles, one in a pickup truck and one on an all-terrain vehicle. Unfortunately, our other trend, indiscipline, was a primary factor in these accidents as well, specifically regarding speed and failure to wear seat belts or personal protective equipment.

As important as POV accident reduction is, however, we can't lose sight of the often subtle hazards that inevitably claim a few Soldiers annually. It's hard to believe that as we near the end of fiscal 2010, more Soldiers have died in sports accidents than in all of 2009. We've also seen an increase in fatal pedestrian accidents this year, the last occurring when a Soldier on the way to sick call stepped in front of a vehicle in a parking lot.

> “LOOK out for THE subtle HAZARDS, and REMEMBER that no RISK is ever too SMALL to merit CONSIDERATION.”



IN SIGHT

And among other accidents, we’ve lost five Soldiers to drowning, one in a fall while hiking and two to privately owned weapons discharges.

Such uncommon accidents are happening in theater too. Just recently, we experienced a tragic accident when a Soldier who was installing flooring in a dining facility suffered fatal burns after the glue he was working with caught fire. Additionally, three Soldiers have died from crush injuries this fiscal year, with two pinned between tactical vehicles and the third killed when a rolling gate malfunctioned and fell on top of him.

In our Army, a loss is a loss, no matter how it happens. While we will continue to work hard through Leader and Family engagement to permanently reduce POV accidents, we must consider just as seriously the other hazards that can take our Soldiers out of the fight. There’s no such thing as a mundane mission or just another day off — safety is a full-time responsibility, and it’s our job to protect the Soldiers entrusted to our care.

There are several ways we can remain vigilant in our fight against all accidents, even those that seem the most unlikely. First, always listen to what your Soldiers are saying. The most valuable eyes and ears you have are the Soldiers who work side by side every day and the NCOs who lead them. If someone is taking unnecessary risks, it’s almost certain somebody else knows. Never underestimate the creativity of your Soldiers either; they just might have a solution for your most frustrating safety problems. Take an interest in everything your Soldiers are doing, and foster a culture where communication flows freely and composite risk management is the first block checked before a team heads out on a mission or the unit leaves for the weekend.

Another vital resource for Leaders is the Army Readiness Assessment Program (ARAP). No matter how hard they try, commanders are often unaware of every hazard their Soldiers face. Through ARAP’s anonymous and confidential surveys and follow-up briefings, commanders can get a true sense of their Soldiers’ concerns and their unit’s safety climate. The program continues to receive overwhelmingly positive feedback from commanders and has become a highly trusted and valuable tool for our Army’s Leaders.

Finally, I encourage you to take advantage of the expertise of the safety professionals within your command. All our Army’s safety personnel — Civilians, aviation safety officers and additional duty safety officers — have been trained to help you reduce risk and fight accidents. They also have access to our most up-to-date safety information, including preliminary loss reports and daily accident statistics that break down current fatality data by category and duty status. Their knowledge is power for both you and your Soldiers.

Oftentimes in safety, the devil truly is in the details. Look out for the subtle hazards, and remember that no risk is ever too small to merit consideration. Thank you for what you do every day for our Soldiers, Families and Civilians! «

Army Safe is Army Strong!

WILLIAM T. WOLF
Brigadier General, USA
Director of Army Safety

PR
AND P

All Leaders are concerned with the well-being of the personnel under their command. This is especially true in a combat environment. The loss of just one Soldier in combat due to a preventable accident is devastating. I say preventable because that is exactly what most accidents are — preventable. The most important aspect of safety is to ensure units adopt a culture in which they do not take unnecessary risks. While it is important in garrison operations, it is imperative this "safety culture" extends to the combat theater.

Many of the safety concerns that exist in both Iraq and Afghanistan are similar. This article focuses on some of the safety issues that are appropriate in the Iraqi theater and, in my opinion, important for operations in Afghanistan.

Vehicle Safety

Driving too fast for conditions and failing to wear restraining devices continues to play a major role in accidents and serious injuries. Improper stowage of equipment is also surfacing as a concern. The following are some of the more prominent safety issues.

- **Mine Resistant Ambush Protected (MRAP) vehicles.** The MRAP is the primary vehicle used in Afghanistan to counter the improvised explosive device threat. The terrain in the Afghan theater is extremely mountainous with steep, unimproved roads. Consequently, numerous rollovers occur due to roads giving way and drivers going too fast for conditions. Soldiers deploying to Afghanistan need as much training as possible on safe driving to fit the conditions. All Soldiers operating in the MRAP

> “The **MOST IMPORTANT** aspect of **SAFETY** is to ensure units **ADOPT A CULTURE** in which they do not take **UNNECESSARY RISKS.**”

EPARE
REVENT

RETIRED COMMAND SGT. MAJ. DAVID R. HENDERSON
82nd Airborne Division
Fort Bragg, N.C.

family of vehicles must rehearse rollover drills in the MRAP Egress Trainer. Soldiers also must rehearse, not just discuss, rollover drills before moving on all convoys. This will reinforce muscle memory, which will aid in the instantaneous execution of proper rollover procedures.

- **MRAP recovery.** For the reasons previously mentioned about the terrain, recovery of a disabled MRAP is a challenge that presents its own safety concerns. One of the primary means for recovery is the M984 Heavy Expanded Mobility Tactical Truck and, in some cases, the Interim Stryker Recovery System. Some recovery situations are very complex because of the terrain at and around the recovery location. Due to the terrain and the size of these vehicles, recovery often is not possible or extremely dangerous. The M1089 wrecker is not an option, as the weight of the MRAP far exceeds the capability of the wrecker. Failure to use the proper recovery vehicle may have catastrophic effects. Leaders and Soldiers involved in planning and executing MRAP recovery need to review Chapters 1 through 5 of Field Manual 4-30.31, Recovery and Battle Damage Assessment and Repair. There is currently an operational needs statement to develop an MRAP recovery vehicle.
- **Driver's training.** One of the causal factors that surfaced during vehicle accident investigations was untrained drivers. This usually results from units not having enough trained personnel to account for attrition due to injury or leave. With this in mind, units should ensure there are numerous backup personnel trained on the vehicles they will operate.
- **Other injuries.** We have seen an increase in injuries during operations pertaining to up-armored vehicles. These injuries include pinched fingers, legs, arms and hands. Additionally, there are leg and ankle injuries due to Soldiers jumping from vehicles instead of climbing down.

Base Camp Safety

Many of the forward operating bases and combat outposts throughout Afghanistan are in extremely austere locations and environments. Therefore, there are concerns in the areas of fire and electrical safety and preventive medicine. Units should

consider training certain personnel in sanitation, plumbing, electrical and fire safety. Many of the contract agencies do not travel to these locations on a regular basis. Enforcement of health and hygiene standards focused at the platoon level is critical in the development of standards and good practices for the elements in outlying locations.

Negligent Discharges

There is an ongoing problem with negligent discharges. In the past, the majority of negligent discharges involved the M9 pistol and M4/M16 rifle. The major cause of these incidents is not following the proper clearing procedures (e.g., not dropping the magazine). There has been an increasing number of negligent discharges involving belt-fed weapons. The majority of these incidents involved untrained personnel. Units must ensure personnel practice proper clearing procedures using the standards referenced in the Weapons Handling Procedures pamphlet found on the U.S. Army Combat Readiness/Safety Center website at https://safety.army.mil/.

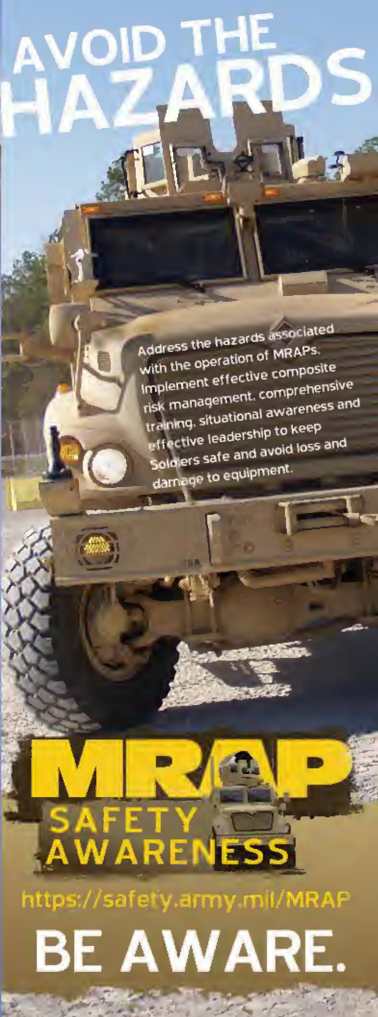
Aviation Safety

Afghanistan presents its own challenges to aviation operations. The high altitude and high temperatures, coupled with the increased weight of combat loads, increase risks during aviation operations. We recommend units attend the High-altitude Army Aviation Training Site in Colorado to prepare for aviation operations in Afghanistan. The mountainous, rocky terrain in Afghanistan makes landings hazardous. Units must take extreme care when selecting helicopter landing zones, and pilots and crew chiefs must use caution during all landings.

Conclusion

Soldier safety is vital to the successful completion of a unit's mission. As we all know, this takes buy-in and support for the command at the highest level. More importantly, safe operations depend on the first-line supervisor enforcing standards. This buy-in and enforcement of standards is essential to safe operations in Afghanistan.«

Editor's note: The author served two tours in Iraq and is currently on his third deployment to Afghanistan, where he is the Combined Joint Task Force-82 safety director.



Address the hazards associated with the operation of MRAPs. Implement effective composite risk management, comprehensive training, situational awareness and effective leadership to keep Soldiers safe and avoid loss and damage to equipment.

TO LIVE ANOTHE

BOB VAN ELSBERG
Strategic Communication Directorate
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

Sgt. Joseph P. Magee enjoyed watching the green trees and fields slip by on either side of his 2002 Oldsmobile Alero as he cruised down Interstate Highway 20. He'd left Fort Bragg, N.C., earlier that day on a long weekend pass to visit his brother at their cousin's place in Atlanta. A road sign alerted him that Augusta, Ga., was only about 20 miles away. He was a good two-thirds of the way through his trip.

The drive had gone beautifully up to that point. It was the Friday going into the Memorial Day weekend and the skies were clear and blue. He still had a couple hours or so to go, but he'd make Atlanta early enough to enjoy some time out that evening with his brother and cousin — or would he?

Sarah McNair (not her real name) was also headed westbound on I-20 that afternoon. As she drove down the road, she wasn't interested in the scenery. At the moment, she was busy trying to put in one of her contact lenses as she sped down the road at 70 mph in her SUV. Focused on the contact on her finger, she wasn't paying attention to the scenery or Magee in the lane to her left.

Out of the corner of his eye, Magee noticed the SUV was starting to drift toward his lane. At first, he wasn't worried; but when she kept coming, he glanced at the driver.

"I saw her putting her finger to her eye and then, three seconds later, I was getting pushed into the median, where there were steel cables running down the middle," he said. "I didn't want to hit them, so I tried to brake, but I couldn't get traction on the grass."

The Alero fishtailed as it went into the median. Magee fought for control and finally got the car headed back onto the road. He was going to pull back into his lane, but he wasn't out of trouble yet. McNair had lost control of her SUV and cut him off, colliding with his car and sending it spinning across

the westbound lanes. Gray smoke billowed from the wheel wells as the Alero's tires skidded across the highway. As he spun more than 360 degrees, Magee caught a glimpse of the silver SUV in time to see it turn sideways in the road. It overturned several times and then went onto the shoulder in a cloud of dust.

Magee was in big trouble. The Alero was still going some 65 mph as it careened out of control off the highway. As it ran onto the shoulder, the speeding car went down an incline and smashed straight into a tree. For Magee, the impact was horrendous.

"I hit so hard it (the impact) lifted me off my seat — only my seat belt held me back," he said. "The air bag didn't deploy, so I hit my head on the steering wheel."

Magee remained conscious, turned off his ignition and reached for his cell phone. As he did, smoke began to fill the car, burning his eyes. He pushed on his driver-side door.

"I was so scared the door wouldn't open, I was going to smash the window real fast because there were sparks and flames coming out of the hood on the right side," he said.

Magee forced the door open, rolled out onto the ground and ended up about five or six feet away from the vehicle. He'd barely gotten out of the car when he heard the first of what would be multiple explosions. He saw flames shoot from beneath the dash, filling the driver's area he'd occupied only moments before.

> "As he **SAT** on the ground, he **HEARD REPEATED EXPLOSIONS** from his **CAR.**"

"If I had been sitting in the car, I would have been done," he said.

As the fire grew, Magee moved away from the car, working his way back along the shoulder to see if McNair needed help. By then, other motorists had stopped and a trucker was checking on her. When Magee got there, he saw the SUV was on its driver side. McNair was lying down but struggling to get up. Fearing she might have internal injuries, the truck driver cautioned her to remain still. Before he could do much to help, Magee's head started spinning and he sat down.

"I was so disoriented I didn't really know what was going on," he said. "I couldn't believe what just happened."

As he sat on the ground, he heard repeated explosions from his car. By then, firefighters were on scene, trying to douse the flames from his car, which had also lit the tree on fire. The firefighters asked him several times if anyone else had been in the car.

Emergency medical technicians (EMTs) arrived at the accident site. Magee had injured his back and neck, so the EMTs placed a neck brace on him and laid him on a stretcher. They then secured his head with straps to keep it from moving as they drove him to a hospital in an ambulance. By the time they got there, Magee's initial adrenaline rush had worn off and he was in considerable pain.

"They took me to the ER and did the usual tests," he said. "They palpated my chest and made sure nothing was punctured. Later, they did a CT scan. They said I had bruises and cuts, but I was all right and lucky to have survived. They then released me. My parents drove all the way from Raleigh, N.C., to Augusta and got me."

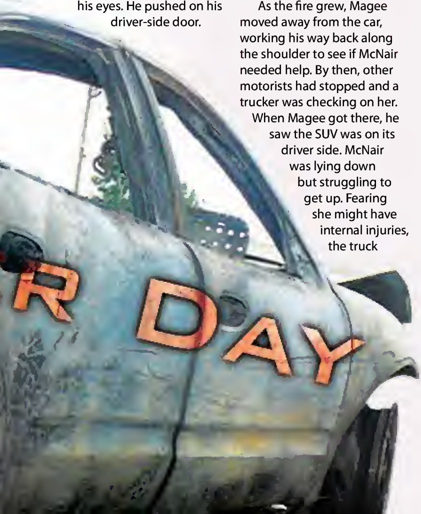
Since the accident, Magee has been treated several times for back pain — something that will always be a part of his life. However, he survived what otherwise would have been a fatal accident and has returned to duty with his unit. He plans to make the Army a career, with a goal of attending officer candidate school and earning a commission. That wouldn't be happening had he not been belted into his car.

"I am thankful to God every day that I survived — that I got out of that car just before it blew up," he said. "Just 10 more seconds and you wouldn't be talking to me today."

Without his seat belt, chances are he would have either been killed on impact or unable to escape his car and died in the flames. Growing up in New Orleans, he'd seen a lot of accidents, including ones where unbelted drivers were thrown through windshields. He learned from their mistakes and understands why it makes sense to protect himself. And it's not just for his benefit, but also those who care about him.

"Just taking three seconds to click on your seat belt can keep your parents from the pain of having to attend your funeral," he said. "I couldn't bear to put my parents through the anguish of thinking, 'If he'd just worn his seat belt, he'd still be with us today.'" «

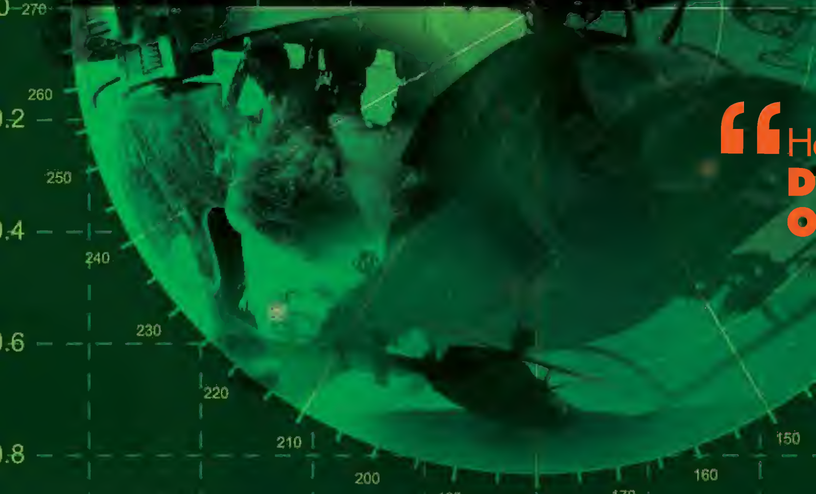
Editor's note: Carl D. Trotter, safety and occupational health manager for the 95th Civil Affairs Brigade, provided valuable support with the production of this article.



“What the Hell was That?”

CHIEF WARRANT OFFICER 2 EVAN STRONG
Headquarters and Headquarters Troop
1st Squadron, 6th Cavalry Regiment
Fort Riley, Kan.

Every Soldier knows complacency kills. Every aviator knows cutting corners can kill too. The Army places great value on confidence in one’s abilities and mission. Taking a few extra moments to remove unnecessary risks can be the difference between life and death. On a routine night mission in Kirkuk, Iraq, two scout weapons teams (SWT) came close to learning a hard lesson because an overconfident pilot in command was anxious to get the mission done.



Forward Operating Base (FOB) Warrior is a busy hub of coalition activity on the southwest side of Kirkuk City. All types of aircraft use this airspace daily, and the U.S. Air Force air traffic controllers (ATC) do an excellent job managing that resource. The aircraft logging the most time in that airspace were the resident units that launched and recovered from FOB Warrior at all hours of the day and night.

On this particular night, the units based at FOB Warrior consisted of a squadron of OH-58D Kiowa Warriors (KW), augmented with UH-60 Black Hawks for assault and medical evacuation missions. A Shadow unmanned aircraft system (UAS) company was also a major player in the area of responsibility and was attached to the squadron.

When launching and recovering, the SWTs normally used the tower for clearance and airspace advisories. Oftentimes, the crews were allowed to operate semi-autonomously due to their low altitude and frequent use of the airspace. This led to a common belief among Scout pilots that they could handle most situations through air-to-air frequencies without needing positive control from the Air Force ATC. When the Shadow launched or recovered, as it did frequently, the SWTs altered their flight corridors to a narrow strip of road that remained clear of the city and the unmanned aircraft's path.

e **DECIDED** to dive for the
IRT and **GET THE HELL**
UT OF THERE. ”

Coalition convoys frequented the road that split the air corridor and these were often supported by SWTs on their way in and out of the FOB. As flight lead of a SWT about to launch, Scout 14 was monitoring the VHF radio while he and his wingman sat in the forward arming and refueling point (FARP). Their mission was to launch to make a time-on-target 10 minutes away, but his wingman experienced a maintenance delay on startup and they were cutting it close.

Scout 14 was anxious to get his show on the road.

"Kirkuk Tower, this is Shadow 17 inbound for South TALS," Scout 14 heard a muffled UAS operator announce over tower frequency.

"Roger, Shadow, proceed to South TALS," the controller responded.

Scout 14 knew he would need to stay clear of the sectors used by the incoming UAS while skirting the city.

"Kirkuk Tower, this is Scout 29 and flight, inbound from the south conducting tactical operations along Route 1."

Scout 14 knew this was his sister ship and they would be operating in the exact airspace he needed to pass through to get to his destination. His wingman suddenly gave a ready call and they backed out of parking. At that moment, Scout 14 made a hasty decision that almost led to disaster.

"Tower, this is Scout 14, a flight of two in the FARP, request departure to the southeast."

"Scout 14, hold for traffic, I have a Shadow inbound for landing and another scout weapons team operating along your route."

"Roger, tower, we can deconflict internally with company traffic. Request permission to launch."

"Scout 14, you are cleared for takeoff, report frequency change."

As Scout 14 began his climbout, he ran through his tactical primary command channels and heard the "eagle call" from his wingman, confirming they were formed as a flight.

He tried to contact the other SWT on FM. "Scout 29, Scout 14," on the troop internal net most often used … but there was no answer.

Scout 14 changed nets. "Scout 29, Scout 14," on the squadron net … still no answer, and they were getting close.

Scout 14 changed to the controlling ground battalion's net. "Scout 29, Scout 14!" … still no answer.

In a split second, Scout 14 realized he had led his two-ship team right into the flight path of another team that had no radio communication. He could also tell that given their focus on the ground element, they had not yet seen his team. Both of Scout 29's aircraft unexpectedly made abrupt turns toward 14's flight, and 14 saw what was happening. He decided to dive for the dirt and get the hell out of there.

Fortunately, Scout 14's wingman stayed in close combat cruise and they were able to pass under Scout 29's flight.

It was only after they were well clear that they heard 29's voice on their team internal net. "Scout 14, Scout 29. What the hell was that?"

"Scout 29, this is Scout 14. I'm sorry about that. I'll explain after we land," he said in an audibly shaken voice.

Scout 14 and his wingman completed their mission and made it home; but in the after-action review, some candid comments were made by all. Scout 14 later apologized to Scout 29 and learned that his team had been supporting a transient unit's convoy. Due to heavy electromagnetic interference and radio issues, they were down to only one FM for the team.

Scout 14 made the assumption that his sister team would be reachable to deconflict the airspace, but they were not. If Scout 14 had simply taken a few moments to try and communicate with the other team while they were still in the FARP, he would have learned this. He could have then decided to wait for the Shadow to land and take a normal route. Instead, he relied on his overconfidence and it almost cost his life and the lives of others.

We often don't recognize bad decisions until it's too late. Fortunately, Scout 14 was able to learn from his mistake and take a valuable lesson with him.«

CHIEF WARRANT OFFICER 2 JASON WOLFF
A Company, 2nd Battalion, 25th Aviation Regiment
Honolulu, Hawaii

As Soldiers, we've sat through safety classes on just about anything and everything imaginable. Despite this, accidents still happen and Soldiers are injured and killed. One issue that has been a problem on each of my deployments is largely preventable — electrical fires.

On my first deployment to Afghanistan, I watched in despair as my main source of supply and entertainment — the PX — burned to the ground in what was probably the biggest fire I'd ever seen. The fire started at the Soldier self-service laundry facility due to a short in the electrical wiring. The laundry facility was also destroyed, as were two storage tents.

During my second deployment to Iraq, our production control office caught fire one day due to overloaded power strips. One of the contributing factors was the power strips were purchased locally from a bazaar and were not Underwriters Laboratories (UL) certified. We also had several other power strips and light fixtures smoke or spark throughout the deployment. Fortunately, there were Soldiers present who were able to unplug the items or extinguish the fire.

Before your next deployment, think about electrical safety and how it could affect your combat readiness and, more importantly, the lives of your Soldiers. Educate your Soldiers about electrical hazards and what to look for. Here are some measures any Soldier can take to "pull the plug" on electrical fires:

- Inspect tools, power cords and electrical fittings for damage or wear before each use. Repair or replace damaged equipment immediately.
- Tape cords to walls or floors when necessary. Never secure with nails or staples, which can damage cords and cause fire and shock hazards.
- Be aware that unusually warm or hot outlets may be a sign that unsafe wiring conditions exist. Unplug any cord to these outlets and do not use until a qualified electrician has checked the wiring.
- Make sure exposed receptacle boxes are made of nonconductive materials.
- Know where the breakers and boxes are located in case of an emergency.
- Do not touch a person or electrical apparatus during an electrical accident. Always disconnect the current first.
- Do not use outlets or cords that have exposed wiring.

“EDUCATE your
ELECTRICAL H
what to LOOK

- Ensure all electrical equipment has the UL certification. If you are unsure, you can check at http://www.ul.com.
- Ensure only trained and authorized personnel work on electrical equipment.
- Clearly label and rope off all electrical hazards as needed to prevent personnel from touching or walking into circuit panels and wiring.
- Make sure fire extinguishers are fully charged and inspections are up to date.
- Ensure smoke detectors are installed and the batteries are checked regularly.
- Don't overload electrical outlets with too many plugs.
- If you must use an extension cord, only do so temporarily and match the amperage and wattage limits of the cord and appliance. Never use damaged cords.

With continued education and using pre-combat checks, we can lower — if not eliminate — the number of electrical fires while deployed. This will help us maintain our mission readiness and bring our Soldiers home alive.«

Soldiers about
AZARDS and
or. ”

Get the tools and information
necessary to be an engaged Leader
Leader's
Corner
https://safety.army.mil
Keep your Soldiers safe
on and off duty. Log on TODAY!

Located adjacent to the Baghdad International Airport is a little-known organization that has transformed safety on bases throughout Iraq. Through its efforts, fires and electrical shocks have dramatically decreased, saving countless Soldiers and Civilians from injury and even death.

shock treatment

CAPT. RUSSELL HUGHES
U.S. Navy
Task Force Safety Actions for Fire and Electricity
U.S. Forces-Iraq

In the summer of 2008, Multi-National Force-Iraq (MNF-I) had a serious problem — more than 140 fires and 50 shock injuries were occurring every month. Too many Soldiers were suffering injuries for reasons that had nothing to do with combat. To tackle this problem, Gen. David Petraeus, then-commanding general for MNF-I, ordered the establishment of Task Force Safety Actions for Fire and Electricity (SAFE) to address the poor electrical and fire safety conditions on all bases in Iraq.

Task Force SAFE is a partnership between U.S. Forces-Iraq (USF-I), the U.S. Army Corps of Engineers, the Defense Contract Management Agency and contractors Stanley, Baker, Hill and Inglett & Stubbs. A division within USF-I J7 (engineers), Task Force SAFE consists of 113 personnel from these organizations and is leading the effort to provide a safer environment for servicemembers and Civilians in the Iraqi theater. The task force uses a multipronged approach of awareness campaigns, education and training, as well as its primary function of inspection, repair and quality assurance, to ensure U.S.-occupied facilities meet Army Regulation 420-1 fire codes and National Electrical Code 2008 electrical standards.

Common Task Force SAFE concerns include cheaply made, non-code-compliant adapters and power strips that are sometimes used in theater and personnel leaving on lights and major appliances continuously, both of which greatly increases the chances of fire. Another challenge is that the common construction material in Iraq is unpainted plywood, which has a low ignition temperature for fires. Also, many of the buildings used by U.S. forces were built before 2003 and are of Iraqi construction and do not have the grounding and bonding necessary to prevent shocks and electrocutions.

To conduct inspections and repairs, Task Force SAFE employs two-person teams comprised of master/journeyman electricians and fire protection specialists and sends them out to every base in Iraq. The teams are tasked with inspecting every building for electrical and fire hazards. When master electrician inspectors enter a facility, they conduct a comprehensive check for unsafe conditions, looking for proper splices, effective grounding and bonding, any evidence of arcing and overheating, fluorescent lights with unsafe magnetic ballasts installed and exposed and energized wires.

Fire protection specialists will check facilities for operating smoke detectors, charged fire extinguishers, clear egress routes and proper storage of flammable materials. They also inspect fire departments to ensure firefighters are properly trained to handle fire emergencies and that equipment is in good working order.

When electrical faults are identified at the installations, they are reported to the unit commander or mayor's cell, which is similar to a small town handling the facilities and infrastructure. The unit then passes the repair work to a contractor. When faults are identified at small bases without a mayor's cell, they're repaired by Task Force SAFE technicians following the inspections. All materials used by Task Force SAFE to make repairs are supplied by Class IV yards maintained by theater engineers.

THE SECRET TO SUCCESS

In August 2008, Task Force SAFE was established to reduce fires and shocks in Iraq. Over a period of 18 months, the task force was able to improve electrical and fire safety through the following actions:

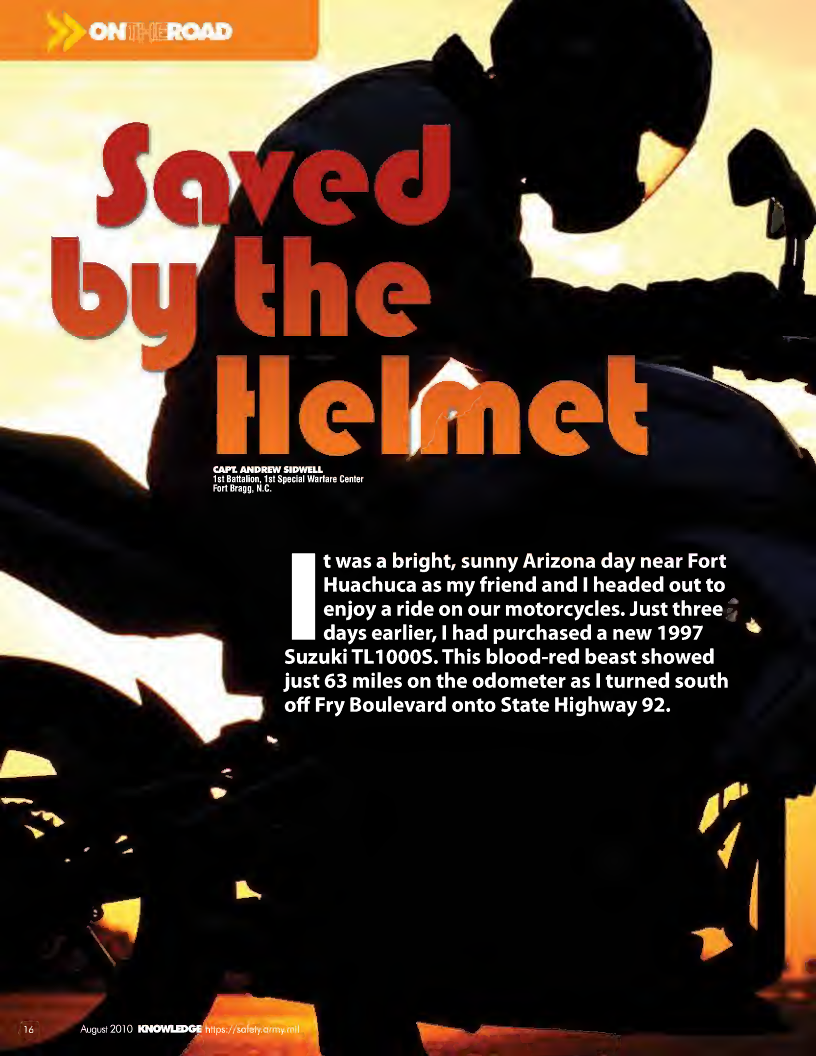
- Conducted 170,463 inspections of facilities
- Identified 53,955 life, health and safety electrical defects
- Repaired 32,223 life, health and safety electrical defects
- Electrically inspected and repaired 194 small bases consisting of 4,328 facilities
- Distributed 1.2 million electric adapters and 572,000 power strips
- Held 33 electric/fire safety awareness courses
- Replaced 87,000 fluorescent light magnetic ballasts with electronic ballasts
- Conducted 34,282 audits of contractor electrically grounded and bonded facilities
- Conducted 79 operational readiness inspections of theater fire departments
- Inspected 61,182 buildings for fire code violations

Task Force SAFE also provides a safer environment for Civilian contractors by conducting electrical and fire safety assessments on the 350 contractor camps co-located on U.S. bases in Iraq. In addition, once a month, the task force conducts an electrical and fire safety awareness course for Soldiers, Civilians, contractors and local nationals. The course is designed to raise awareness by helping students identify common electrical and fire hazards and the steps needed to correct hazardous situations.

The Payoff

Since August 2008, fires on bases in Iraq have decreased by 96 percent, while shocks have been reduced by 60 percent. By the end of this summer, every building will have received two inspections, with a goal of 94 percent of all buildings being free of any electrical faults. Furthermore, all theater fire departments will have had four inspections, and all small bases will have been repaired.

Today, nearly all shocks and fires on Iraq bases are due to personnel errors, not unsafe wiring. The result is fewer losses to our formations, combat power and Families.«



Saved by the Helmet

CAPT. ANDREW SIDWELL
1st Battalion, 1st Special Warfare Center
Fort Bragg, N.C.

It was a bright, sunny Arizona day near Fort Huachuca as my friend and I headed out to enjoy a ride on our motorcycles. Just three days earlier, I had purchased a new 1997 Suzuki TL1000S. This blood-red beast showed just 63 miles on the odometer as I turned south off Fry Boulevard onto State Highway 92.

> **I TRIED** to stand but **COLLAPSED**, **SUDDENLY** becoming **AWARE** of the **EXCRUCIATING PAIN** in my **CRUSHED** left foot and ankle.

Including turning lanes, there were three lanes of traffic in each direction, meaning shoppers wanting to cross the street to a shopping center on the other side had to cross six lanes of traffic. With several shopping centers on either side of the road, traffic was thick as people turned into or exited them. My riding partner decided traffic was moving too slowly and zipped down the center line between cars — his Suzuki Katana 750 screaming like a banshee as he accelerated. I thought about following him but decided to do the right thing and wait. I figured I could catch up later.

As I was riding, a car darted out of a shopping center on the left, crossing all three lanes of that side of the road and the median. The driver was a 17-year-old girl who didn't have a license and had "borrowed" her parent's car while they were out of town. She'd been hurrying to get through a small gap in traffic and hit me going full tilt — never even touching the brakes.

I felt the crushing impact as her bumper smashed my left foot and ankle. The bike went sideways, throwing me forward onto the road, where I bounced along until I went head-first into the car in front of me. My helmet bounced off the back bumper just before I came to rest with my head lodged in the car's left-rear wheel well.

I grabbed my helmet, pulled my head out and then slid from beneath the car. The first thing I saw was my beautiful new motorcycle lying on its side several yards away, fluids draining and the exhaust pipe ripped off. I tried to stand but collapsed, suddenly becoming aware of the excruciating pain in my crushed left foot and ankle. I focused on not going into shock while trying to restrain the urge to strangle the driver who had just run me down. I'm sure I looked like something out of "The Terminator" as I dragged myself toward the retreating girl. Thankfully, two off-duty emergency medical technicians were nearby and came over to treat me while I waited for the ambulance.

All I could think about — aside from the pain and loss of my new bike — was how could this have happened? I was wearing all the proper personal protective equipment (PPE), had been riding responsibly and was an experienced rider. I had attended Motorcycle Safety Foundation (MSF) training. Having done everything I was supposed to do as a rider, how could I have been involved in something like this?

The answer is quite simple; this accident could have happened to anyone. The bottom line is no matter how prepared or experienced we riders are, we are still at the mercy of car drivers, the weather, road conditions and other events beyond our control. That's not to say safety should be disregarded; just the opposite.

Preparation is the one thing you can always do to increase your chances of survival. Had I been unprepared by deciding not to wear a helmet, I could have been dead. In fact, the National Highway Traffic Safety Administration (NHTSA) estimates that "helmets saved 1,784 motorcyclists' lives in 2007, and that 800 more could have

HOW BIG IS THE PROB

CAPT. ANDREW SIDWELL
1st Battalion, 1st Special Warfare Center
Fort Bragg, N.C.

My motorcycle accident, which happened in 1997, was in no way a unique experience. In fact, during the decade between 1997 and 2007, motorcycle accidents nearly doubled, going from 53,000 riders injured and 2,116 killed in 1997 to 103,000 injured and 5,154 killed in 2007. Of those who died during 2007, 4,833 either had alcohol in their system or weren't wearing a helmet. That means nearly 94 percent of those fatalities could possibly have been prevented.

Being in the military doesn't exclude us from fatality statistics. In 2008, 51 Soldiers died as a result of motorcycle accidents. The hardest hit demographic was enlisted personnel in the ranks of specialist/corporal through staff sergeant, age 23 through 33 years. These riders accounted for 22 of the 51 deaths. Furthermore, 37 out of these 51 deaths were sport bike riders — most riding bikes with an engine capacity of 1000cc or more. Typically weighing been saved if all motorcyclists had worn helmets." According to NHTSA, helmets are about 37 percent effective in reducing motorcycle fatalities.

Beyond helmets, Army Regulation 385-10 requires Soldiers wear additional PPE, including over-the-ankle shoes or boots, a long-sleeved shirt or jacket, gloves, eye protection and a reflective vest or belt. This equipment is to be worn at all times when operating a motorcycle, both on and off post. I had on all of these when my accident occurred. Aside from the reflective belt, I can honestly say they reduced the seriousness of my injuries, according to the emergency room doctor who initially treated me. «

BLEM?

about 400 pounds and having 150 horsepower or more, some of these bikes can exceed 180 mph.

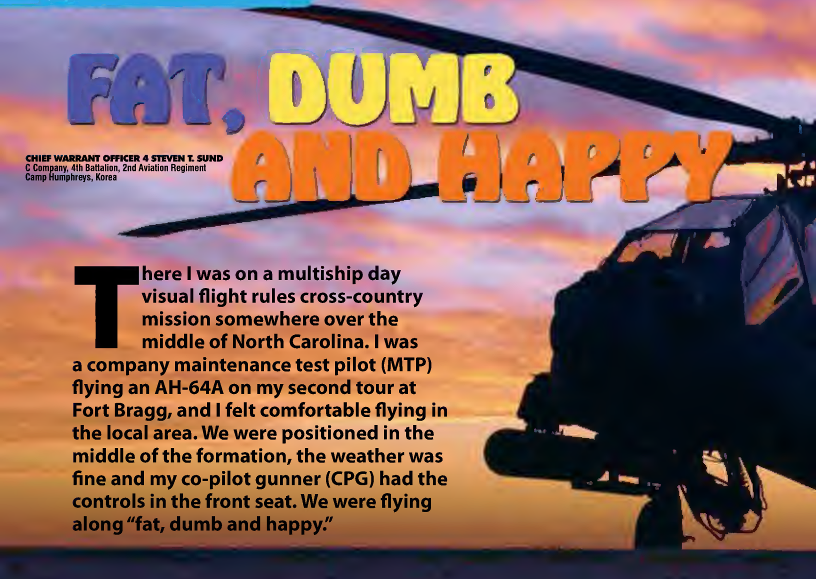
To put the loss of those 37 sport-bike-riding Soldiers into perspective, a Stryker infantry platoon consists of 45 Soldiers. Imagine losing almost a full platoon from your company and you can begin to understand the potential effect of motorcycle accidents on the combat readiness of a unit. «

Have fun while helping your battle buddy!
MMP
MOTORCYCLE MENTORSHIP PROGRAM

Check out the USACR/Safety Center MMP website for some examples of active mentoring programs.

https://safety.army.mil/mmp/

Welcome to the Motorcycle Mentorship Program



FAT, DUMB AND HAPPY

CHIEF WARRANT OFFICER 4 STEVEN T. SUND
C Company, 4th Battalion, 2nd Aviation Regiment
Camp Humphreys, Korea

There I was on a multiship day visual flight rules cross-country mission somewhere over the middle of North Carolina. I was a company maintenance test pilot (MTP) flying an AH-64A on my second tour at Fort Bragg, and I felt comfortable flying in the local area. We were positioned in the middle of the formation, the weather was fine and my co-pilot gunner (CPG) had the controls in the front seat. We were flying along "fat, dumb and happy."

As I performed Task 1026, Maintain Airspace Surveillance, from Training Circular 1-238, I noticed the aircraft had suddenly developed a one-to-one vertical bounce, accompanied by the CPG saying, "What the hell was that?" I looked out the window and saw one rotor blade flying about four inches below the others.

The aircraft then started vibrating severely up and down. I took the controls from the CPG and quickly checked controllability. All the controls seemed to be working normally and the vibration levels hadn't changed. I announced to the flight I was having a problem and told my CPG to find the nearest airport.

Just as the CPG pulled out the map, another aircraft in the flight said, "There's an airport at three o'clock, about four miles away."

I called, "Roger, turning right," and almost immediately sighted the airfield.

Now, I know you're probably wondering why I didn't put it down right there. Well, I strongly considered it. There were plenty of open fields between the airfield and me. I guess it was the MTP in me thinking that if the aircraft needed a new blade, I had to make sure our maintainers could get a truck to the aircraft. I also discounted the possibility of a flight control malfunction since the controls still worked normally. I decided to continue to the airfield with the option of landing immediately if the vibration level increased.

On final approach, I saw a National Guard maintenance facility adjacent to the runway, so I landed directly to their taxiway. As soon as I brought the power levers back, the CPG said, "Something just came off one of the blades!"

After finishing our shutdown, we recovered half of a main rotor tip cap that had landed about 50 feet in front

> “I SHOULD have LANDED immediately — PREFERABLY STRAIGHT AHEAD into the FIRST open AREA WE SAW.”

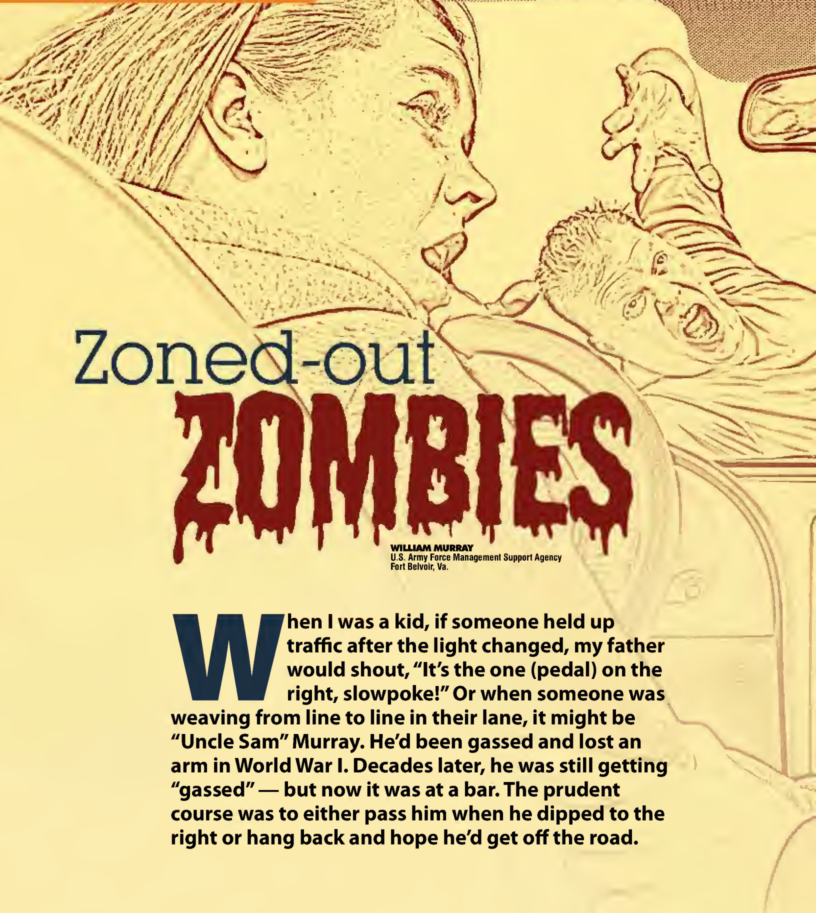
of the aircraft. As we looked at it, we noticed the metal on the leading edge was paper thin. Evidently, it had eroded enough that the air could enter and strip the top and bottom off like a banana peel.

Lessons Learned

The important question is, “What have I taken away from this experience?” Obviously, I pay a lot closer attention to main rotor tip caps on preflight than I did before. I also try to consider how being a maintainer influences my decision-making process. Figuring out how to recover a downed aircraft is something a maintenance officer does on a regular basis, but choosing a landing site during an emergency based on ease of access for repairs wasn’t the smartest thing to do. I should have landed immediately — preferably straight ahead into the first open area we saw.

We were lucky. Accidents often begin with a common-error chain of events. Should you need to make an off-airport landing, be extremely cautious and ensure no obstacles such as poles, wires, trees, low-level brush and buildings are in your path. The best way to handle these obstacles is to remember slow is good and slower is better. Going slow gives you the ability to see what you’re flying into in case you need to abort or alter the landing. Never be so committed to a planned flight that you refuse to alter it when an emergency happens.

The next time you’re flying along fat, dumb and happy, remind yourself that good judgment will keep you alive.«



Zoned-out ZOMBIES

WILLIAM MURRAY
U.S. Army Force Management Support Agency
Fort Belvoir, Va.

When I was a kid, if someone held up traffic after the light changed, my father would shout, "It's the one (pedal) on the right, slowpoke!" Or when someone was weaving from line to line in their lane, it might be "Uncle Sam" Murray. He'd been gassed and lost an arm in World War I. Decades later, he was still getting "gassed" — but now it was at a bar. The prudent course was to either pass him when he dipped to the right or hang back and hope he'd get off the road.

“Some **MOTORISTS RARELY,** if **EVER,** practice **SITUATIONAL AWARENESS.**”

Things have changed a lot since then. Today, when someone can’t stay in their lane, fails to signal, tailgates or does other crazy things, chances are they’re driving distracted.

Outside of combat, few endeavors are as fraught with danger as driving. If you tally the numbers since 9/11, you come up with some 300,000 traffic fatalities in America. Almost makes the run to Fallujah or Kabul look sane. And yet, people get behind the wheel every day, eating, texting, reading — doing just about anything but watching the road.

Ever heard of situational awareness? You know, it’s what makes you take that second look at a pile of rocks along the convoy route or notice the locals suddenly disappearing from your foot patrol zone. Bring it back home and situational awareness is looking at the kid playing with his dog and wondering if he might rush out into the street. It’s watching that car about to enter from a side street to see if the driver has looked your way and knows you’re coming. Basically, it’s staying alert for the hazards around you.

Some motorists rarely, if ever, practice situational awareness. I’m stationed in the Washington, D.C., area and dread my afternoon and weekend commutes. Here are a few examples of why.

I once witnessed an Army spouse (identified by the numerous “I ♥ MY SOLDIER” stickers on her vehicle) texting while operating in heavy traffic on Interstate 495. My wife and I watched as she got closer to the car ahead of her every time traffic stopped. When traffic suddenly halted after reaching about 30 mph, she panicked and threw her device against the windshield, trying to regain control of her vehicle. Fortunately, she stopped in time. The next time she passed us, she had both hands on the wheel.

One afternoon I noticed a Soldier having an animated conversation on his cell phone. He was using the cross-handed (right hand to left ear) method to hold the phone as we crept along U.S. Highway 1. When the traffic stopped, he only missed hitting me by going onto the shoulder. He recovered his phone, gave me an annoyed look, pulled back onto the road and continued the same cross-handed cell phone conversation.

It's not just that distracted drivers disrupt the flow of traffic or that using handheld devices while driving on post is prohibited by regulation. The real issue is these drivers pose a dangerous threat to everyone else on the road.

I once had to send my first sergeant and a platoon leader to the chapel where the wife of a staff sergeant worked. Their duty was to tell this young mother of three that her Soldier had gotten distracted on the road and wouldn't be coming home — ever. What about you? Is a phone call or text message worth your life?

TIPS TO MINIMIZE DISTRACTED DRIVING

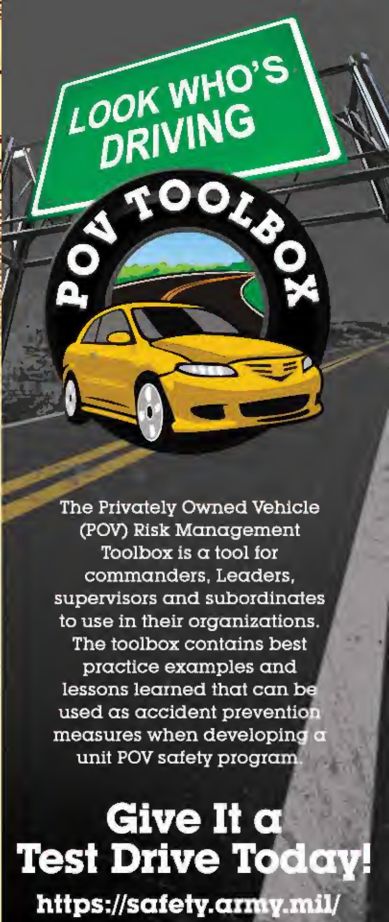
Do you occasionally have trouble keeping your mind on the road and your car between the lines? Here are some commonsense tips from Farm Bureau Insurance to help you reach your destination without a side trip to the hospital.

- **CHANGE YOUR WAYS** and recognize the activities that distract you, such as eating, conversing on the phone or changing a CD. Once you recognize these distractions, you can work to eliminate them.
- **MAKE A PLAN.** Know your route in advance and make sure you clearly understand your directions. Check the weather and road conditions. If you are transporting children, make sure they are properly buckled up and you have items to keep them occupied, such as books on tape or soft toys.
- **MANAGE YOUR TIME** so you do not have to multitask or drive aggressively on the road.
- **DON'T LET YOUR DRIVE TIME BECOME YOUR DOWN TIME.** Understand driving is not your "down time" or a time to catch up on phone calls, personal grooming or dining.
- **SCAN** the roadway to ensure you are aware of others at all times. Be prepared for other drivers to be unpredictable.
- **CONCENTRATE** on your driving. Make sure you are not upset or tired when getting on the road. This is not the time to have a serious or emotional conversation with your passengers.
- **PULL OVER** if you need to do something that will take your eyes and/or mind off the road. Make sure you find a safe place to pull over first.
- **REDUCE THE USE.** Use technology sensibly.
- **TAKE A REFRESHER CLASS.** Everyone can pick up bad habits through the years. A driver improvement class can raise your awareness and help you assess your driving behaviors.
- **BUCKLE UP — EVERY TRIP, EVERY TIME.** Making sure everyone is properly buckled-up is the best defense against accidents caused by distracted drivers.

> “When the **TRAFFIC** stopped, he **ONLY MISSED** hitting me by **GOING** onto **THE SHOULDER.**”

Although it may be hard for many to believe, it is possible to drive without having a cell phone grafted to your ear. Instead, try using a little common sense. If you’re giving someone a heads up that you’re coming, call before you get on the road. It won’t delay you that much and you’ll improve your chances of actually arriving. Got an incoming text message? Wait until you can stop to send back an answer. Fat-fingering your response on the fly can leave you with an "incomplete" sentence and a "D" (for "dead") in graveyard grammar. Pay attention so the risky things happening around you don’t happen to you!

It’s summer. Take the Family and friends on a road trip. Just make sure you bring them — and yourself — back in one piece.«



The Privately Owned Vehicle (POV) Risk Management Toolbox is a tool for commanders, Leaders, supervisors and subordinates to use in their organizations. The toolbox contains best practice examples and lessons learned that can be used as accident prevention measures when developing a unit POV safety program.

Give It a Test Drive Today!

DON'T ASSUME ANYTHING

CHIEF WARRANT OFFICER 4 STEVEN T. SUND
C Company, 4th Battalion, 2nd Aviation Regiment
Camp Humphreys, Korea

It was a typical early summer day at Abu Hammad Air Base, Egypt, located in the Nile Delta northeast of Cairo. I was assigned as an AH-64A maintenance test pilot (MTP) and adviser to the Apache Technical Assistance Field Team. Despite the challenge of English as a second language for my Egyptian counterparts, I thought I had a good handle on how the local pilots expressed themselves. I thought wrong.

One of the Egyptian MTPs approached me with a question as I finished meeting with the maintenance squadron commander. He had been working on a post-phase aircraft for a few days and had progressed to track and balance of the rotor system.

"I am hearing a 'voice' from the rotor blades," he said. "Would you fly it with me?"

Thinking the problem was related to an anti-erosion tape issue, I said I would fly with him and we proceeded to the aircraft. After preflight, he opted to take the front seat to practice running the aircraft vibration analysis kit. I climbed in the back and we progressed through a standard run-up, with everything appearing to operate normally.

After taking our ground and hover measurements, we were cleared for takeoff but elected to remain in the traffic pattern. That wasn't a huge issue at this location since it was originally a Soviet airbase with a 10,000-foot runway. I did not notice anything unusual as we took the measurements at the various airspeeds until I attempted to accelerate to 140 knots for the final measurement. As I approached 100 percent torque, I heard a sound like machine-gun fire coming from the left engine.

Over the din, I heard my front-seater say, "This is the 'voice' I was telling you about. What is it?"

I reduced power and, as the torque decreased through about 85 percent, the banging stopped. I croaked out, "Compressor stall," and made a slow turn to a base leg to set up for landing. Still a bit shaken and hesitant to make any large power changes, I decided to make

a roll-on landing — not a huge challenge on a 10,000-foot runway. We landed without incident and returned to the maintenance hangar without further problems.

Lessons Learned

So, what did I learn from this incident? More than anything, I learned not to assume anything and to ask questions. Training Circular 1-238, Aircrew Training Manual for Attack Helicopter, AH-64A, paragraph 6-3b, Crew Coordination Basic Qualities, states the following for accomplishing pre-mission planning and rehearsals: "Pre-mission planning includes all preparatory tasks associated with planning the mission. These tasks include planning for VFR, IFR and terrain flight. They also include assigning crewmember responsibilities and conducting all required briefings and briefbacks. Pre-mission rehearsal involves the crews collectively visualizing and discussing expected and potentially unexpected events for the entire mission. Through this process, all crewmembers think through contingencies and actions for difficult segments or unusual events associated with the mission and develop strategies to cope with those contingencies."

Had I asked specific questions about the nature of the "voice" he'd heard and the other indications he'd noted, I'd probably been able to decipher the problem before we ever got into the aircraft. At the very least, it would have prepared me for the possibility of what actually occurred.«

Running on EMPTY

CAPT. MIKE CRIVELLO
U.S. Army Aeromedical Research Laboratory
Fort Rucker, Ala.

It was August 2007 in Tikrit, Iraq, and I was assigned to C Company, 3rd Battalion, 25th Aviation Regiment (Air Ambulance). The unit's deployment had been extended from 12 months to 15 months and morale was dim — at best. Eventually, though, a light appeared at the end of the tunnel.

With redeployment just two months away, I found renewed motivation to regain a high level of physical fitness before returning home. I started running three to four days a week on dirt trails just past the end of the runway. After a few weeks, I was losing weight, feeling great and my clothes were fitting more loosely. One of the greatest benefits I noticed was how much easier it now was to run to the operations center and aircraft for a medevac mission. My confidence started to soar and I was holding my chin a little higher.

Because of my newfound fitness level, I strived even harder. Running and getting thin became an obsession. Each day, I pushed harder than the day before. The fire within me became hotter with each passing step. Even better, others were noticing my weight loss and fitness level, which further fueled my desire to take it to the next level.

As anyone can imagine, it was quite hot in Iraq during the summer, and daily temperatures were reaching 120 F or more. The cockpits of the aircraft were easily 140 F while baking in the sun. On any given mission, the crew came back soaked from flying for an hour or more in the scorching sun. By nature, I sweat a lot, but I'd never experienced heat like this.

When I was off duty, I would run in the mid- to late afternoon, which must have been close to the hottest part of the day. But that was hardly a deterrent. If anything, it made me more motivated. I was driven to lose more weight, so my mentality was "the hotter the better."

Occasionally, I changed up my cardio routine to ensure my muscles were getting the most from my workouts, and I started implementing sprints into my runs. I jogged for a short bit, picked an object about 25 to 30 yards ahead, sprinted to it and then returned to a jog pace. It was during one of these sprints my obsession caught up with me. I was halfway to my chosen marker when it suddenly felt like someone stabbed me in the right hamstring.

I was forced to stop in my tracks and nearly dropped to my knees. The pain was excruciating. I stretched for a short bit, trying to shrug it off, and then started to jog. But the pain wouldn't let me continue. I slowly hobbled back to the life sustainment area with my head hung low. With each step, I felt a shooting pain. I soon realized my goal of losing more weight and achieving a great running fitness level was crushed.

Lessons Learned

I guess any athlete has to come to grips with setbacks because of the body's limitations, but it was hard for me to accept my own humanness. I was determined to get back in the saddle as soon as possible and start training again. First, though, I had to evaluate why this injury happened to me.

Dehydration and overexertion were the primary contributors to my severely pulled hamstring. From the scorching heat, flying with 65 pounds of gear in a sweltering cockpit, continuous running and working out multiple days a week, it became clear my body was putting out more than I was taking in. My water intake was not nearly at the acceptable level for the amount of sweating I was doing. My body was running on empty. What's more, my stretching techniques were not adequate for the type of exercise I was conducting. My disregard for the temperatures while running in the hot sun further aggravated the situation.

I am now a firm believer in proper hydration and respecting my environment. Had I hydrated properly, I would have had a better chance of accomplishing my fitness goals. In addition, by switching my run time to early morning or dusk, when the temperatures dropped to more reasonable levels, and taking the time to stretch more thoroughly, perhaps I would not have pulled such a crucial muscle.

The consequences of my actions directly affected my physical fitness regimen, weight loss and response time, but it could have been worse. I was able to continue my mission as a medevac pilot, but my response time "running" to the operations center and aircraft had drastically slowed. Fortunately, I never caused our aircraft to take off late when responding to a 9-Line.

I also could have been grounded, costing my unit a valuable asset as a pilot responding to lifesaving missions. I saw the consequences of my actions in multiple facets of my everyday life; but, even more so, I definitely felt them. It was a hard and painful lesson to learn.

As Soldiers, we must maintain our bodies, physical fitness and mental alertness — not only for ourselves, but for our brothers and sisters in arms and our mission. Stay healthy, stay hydrated and accomplish the mission!«

GRAT
GROUND RISK ASSESSMENT TOOL

GRAT is easy to use and provides users with accident hazard and control information and assists them in producing an automated CRM worksheet (DA Form 7566) for their mission, task or activity. Users can save, e-mail, edit or print the worksheet.

GRAT-S
http://safety.army.smil.mil

GRAT-S is now available and allows Leaders in forward-deployed units access to GRAT on the SIPRNET.

Disaster near Crazy Horse

CHIEF WARRANT OFFICER 3 CURTIS D. FOSTER
160th Special Operations Aviation Regiment
Fort Campbell, Ky.

It was 2005 and I was riding with a group of friends to the annual motorcycle rally in Sturgis, S.D. We had dedicated our ride to honoring a fallen Soldier, Chief Warrant Officer 2 Michael Blaise, who'd died in Iraq in January 2004.

The ride to Sturgis had been incredible. When we got there, we set up our camp and, the next day, started touring the Black Hills. On one of our rides, we decided to enjoy the majestic beauty of God's creation by riding to the Crazy Horse Monument and then down to Custer National

RIDE HONORS FALLEN SOLDIERS

The Blaise 'N' A Trail ride is an annual event to honor Soldiers who have given their lives in the line of duty. Interested riders can go online to www.blaisenatrail.com/ to learn more about these rides.

Park. After visiting the Crazy Horse Monument, we got onto U.S. Highway 385 and headed south toward Custer National Park. Traffic in our direction was pretty light that morning and only slightly more busy in the oncoming northbound lanes. We were enjoying the ride — but that was about to dramatically change.

We hadn't been on the road for long when we came upon a bad accident. Several bikes had gone down and a badly mutilated body was lying in the road. We stopped to offer help. The rider on the road was obviously dead; his left leg had been amputated and stomach eviscerated (open with his internal organs coming out).

I went to check on the other riders. The first rider I came to had a possible hip or pelvis fracture along with some road rash. The second rider I checked — a woman riding as a passenger on one of the bikes — hadn't been wearing a helmet and suffered severe head trauma. The last person I tried to help was by far the luckiest. Although he'd also failed to wear a helmet, he'd escaped the accident with only some light road rash.

It wasn't long before the police and paramedics arrived. As the paramedics took over the medical treatment, I assisted the police officer recovering the dead rider's body and leg. The police kept us there for some time; I believe they appreciated the help.

It didn't take long to find out what happened. A pickup in the northbound lanes had been hauling a trailer carrying eight portable toilets that the driver had failed to properly secure. One of the toilets fell off the trailer, striking a motorcyclist who was following on the road. When his bike went down, it threw him into the oncoming lanes and directly into the path of three bikes. It happened so quickly the lead rider couldn't avoid hitting the downed motorcyclist. The second rider then went out of control and crashed, while the third rider laid his bike down trying to avoid the accident.

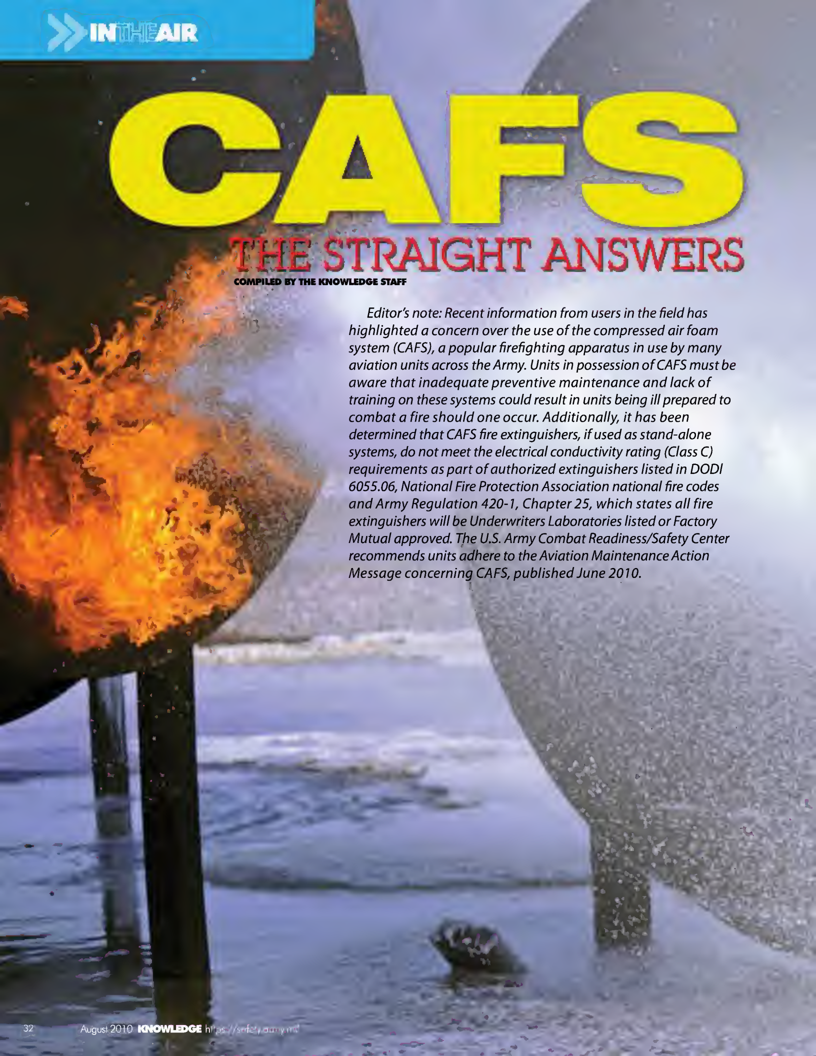
We were in a pretty somber mood as we slowly rode back to camp. To make matters worse, it began to rain — which slowed us even more. However, the long ride gave me time to think about the consequences of people's actions. Unlike most accidents at Sturgis, this one did not involve alcohol. Instead, individual lapses in judgment, procedure or routine cost a rider his life and may have left a woman permanently disabled.

How does one prepare to be struck by a portable toilet? Should the rider have kept more separation from the trailer? What about the woman with the traumatic head injuries? How would her life be different now had she been wearing her helmet? While these questions will, for the most part, go unanswered, this incident made each of us a better rider.

As soon as we returned to camp, we discussed the accident and what we would do to prevent a similar incident from occurring. From this tragic event, we took away the following lessons about surviving on the road:

- Always wear your helmet.
- If something ahead doesn't look right, increase your following distance.
- When riding in a group, watch out for each other's safety.
- Maintain group integrity on the road so you'll be more visible to other motorists.
- Go over your hand and arm signals before every ride and ensure everyone knows the route, including who will ride lead and who will bring up the rear.
- To protect less experienced riders, put them in the middle of the group next to a seasoned rider.

Since 2005, we have kept our riders safe by practicing these measures consistently during our annual "Blaise 'N' A Trail" rides. And we plan to keep it that way.



CAFS

THE STRAIGHT ANSWERS

COMPILED BY THE KNOWLEDGE STAFF

Editor's note: Recent information from users in the field has highlighted a concern over the use of the compressed air foam system (CAFS), a popular firefighting apparatus in use by many aviation units across the Army. Units in possession of CAFS must be aware that inadequate preventive maintenance and lack of training on these systems could result in units being ill prepared to combat a fire should one occur. Additionally, it has been determined that CAFS fire extinguishers, if used as stand-alone systems, do not meet the electrical conductivity rating (Class C) requirements as part of authorized extinguishers listed in DODI 6055.06, National Fire Protection Association national fire codes and Army Regulation 420-1, Chapter 25, which states all fire extinguishers will be Underwriters Laboratories listed or Factory Mutual approved. The U.S. Army Combat Readiness/Safety Center recommends units adhere to the Aviation Maintenance Action Message concerning CAFS, published June 2010.

Unless you're new to firefighting or have had your head buried in the sand, you're probably aware of one of the more heralded advancements in fire suppression development — the CAFS. For some, CAFS might appear to be a radical new development in firefighting. But, in fact, CAFS was developed in the 1930s and used by the British Royal Navy. The U.S. Navy has used the technology for more than three decades, and the Army for the past 13 years. However, a lot of confusion and, in some cases, misconceptions still exist as to what CAFS is, what it is capable of doing and the issues involved.

What exactly is CAFS and what makes it so different from traditional methods of fire suppression? CAFS creates bubbles by combining three critical ingredients: water, foam and air. Bubbles make water more durable and able to absorb the caloric output of the fire. Let's discuss further.

The first ingredient is water. Water remains the primary extinguishing agent in fire suppression. It could be the water carried on the fire truck in a booster tank, water from hydrants or folding canvas tanks or water from a stream, lake, pond, swimming pool or some similar source.

The second ingredient for CAFS is foam. For the purposes of this article, we'll concentrate on Class A and B foams. A foam-metering device, or proportioner, is needed to accurately inject foam concentrate into the fire stream. The foam concentrate/water solution may be pre-mixed in the tank, with pros and cons to be discussed later.

The final ingredient is air. Air is introduced from a compressor, which is a mechanical method of introducing high-volume air into the fire stream by using a vane-type or rotary-screw industrial air compressor. Larger versions of the CAFS today use some type of onboard compressor. Smaller portable units may also be pneumatic (non-mechanical) in design in which a vessel is pre-charged with air. This may be an independent air supply or used in the same vessel in which a pre-mixed foam/water solution exists. These units can be as small as a backpack or large enough to require a motor vehicle to transport its contents.

Why Does It Work So Well?

With CAFS, you are still using water to reduce the heat, but you are doing it more efficiently. It actually absorbs the heat. Seven bubbles make up one average-sized drop of water. Each bubble has a thin wall of water that makes up its shell that removes heat radically 360 degrees around its entire surface area.

What does this have to do with firefighting? It has everything to do with making water more durable and pliable. This is an essential reason CAFS works. It provides a vapor-sealing blanket of foam designed to eliminate ignition or re-ignition of any flammable source.

Fire Classifications

In firefighting, fires are identified according to one or more fire classes (see info box below). Each class designates the fuel involved in the fire, and, thus, the most appropriate extinguishing agent. The classifications allow users to select the most effective extinguishing agent, as well as avoid unwanted side effects. For example, nonconductive extinguishing agents are rated for electrical fires to avoid electrocuting the firefighter.

So, how do you know when, where and how to use the appropriate Class A and B foam to achieve fast, safe suppression for any type of fire situation. Naturally, most municipal departments rarely use anything but Class A foam. It's the firefighters protecting aviation assets, tanker truck collisions and forward arming and refueling points that should keep thousands of gallons of Class B on hand and understand the application techniques inside and out.

Advantages

By using compressed air foam, many advantages are immediately evident. CAFS provides firefighter safety, improves the efficiency of plain water by five to seven times, provides a faster means of fire knockdown, offers a rapid reduction in heat and requires less water.

CAFS is most often acclaimed for its lightweight hoses and great reach capabilities. These lightweight lines allow greater maneuverability and less firefighter fatigue. The lines will actually float on water due to the air in the line. The discharge distance of propulsion is much greater than water alone. Even 25- to 50-gallon-per-minute streams are able to reach 100 feet with the addition of compressed air. Unlike water, a compressed air foam mixture has the ability to be compressed or packed into a hose line. It is for this reason that when shutting down a nozzle, care must be taken to discharge this stored energy because of its increased propulsion factor. The stored energy will come surging out more forcefully than what was experienced before shutting the nozzle valve. Depending on the total length of the hose, it is the storage of this compressible mixture that allows the firefighter many seconds, or even minutes, of valuable firefighting time even if the truck is rendered inoperable. Imagine if you run out of water, lose prime or run out of fuel or, for some reason, the truck or pump quits. The firefighter is still safe for a while because of the stored energy in the hose. The more hose installed means the more time available.

Other advantages of the CAFS include the operator stays farther from the fire and has the ability to see where the foam has been applied. Additionally, most CAFS allow pump operators to control the foam expansion ratio precisely for the given situation, reducing foam waste and runoff, thereby not contaminating soil and water.

COMPARISON OF FIRE CLASSES

CLASS	FUEL/HEAT SOURCE
A	Ordinary combustibles (wood, plastics and rubber)
B	Flammable liquids and gases
C	Electrical equipment
D	Combustible metals
K	Cooking oil or fat

Disadvantages

If CAFS is so great, why doesn't everyone have it? The CAFS has several disadvantages.

Often, the No. 1 deterrent is cost. As a rule of thumb, you can figure somewhere between \$7,000 and \$10,000 for each foam system.

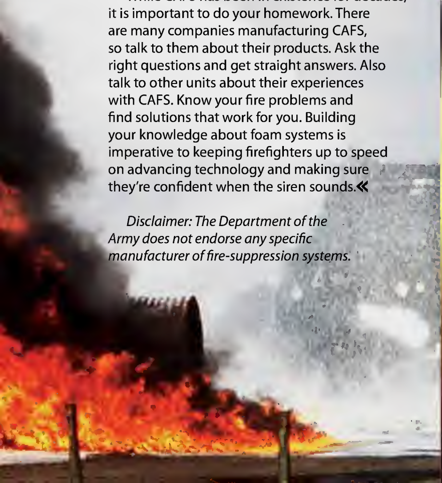
Firefighters must also acquire additional training to use the CAFS. Techniques for applying Class A and B foams vary greatly. Class B methods require strategic stream placement to "blanket" the flaming liquid and prevent dangerous vapors from escaping. Implementing Class B foam drills and practicing several times per year will keep firefighters' skills in shape so they can attack any type of fire with confidence. Remember, Class B, or aqueous film-forming foams, should not be used for structural applications.

Additionally, CAFS can be corrosive to metals such as aluminum and are potentially abrasive. Class B foam is highly corrosive. Firefighters must thoroughly flush the foam out of their operating systems and apparatuses after each use to avoid damaging equipment.

In the event the foam solution is not flowing when the air is added, a condition called "slug flow" will occur with the line, causing pulsation. This results from the air not bonding with the water due to the lack of a surfactant.

While CAFS has been in existence for decades, it is important to do your homework. There are many companies manufacturing CAFS, so talk to them about their products. Ask the right questions and get straight answers. Also talk to other units about their experiences with CAFS. Know your fire problems and find solutions that work for you. Building your knowledge about foam systems is imperative to keeping firefighters up to speed on advancing technology and making sure they're confident when the siren sounds.«

Disclaimer: The Department of the Army does not endorse any specific manufacturer of fire-suppression systems.



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Accidents occurred between April 1-30, 2010

AVIATION

UH-60L

CLASS A

- The aircraft crashed during landing, resulting in one Soldier-passenger receiving fatal injuries.

C-12U

CLASS B

- While conducting an instrument landing system descent approach, the left engine propeller separated at 6,000 feet above ground level. The crew was able to land the aircraft without further incident. However, the aircraft sustained damage to the engine nacelle and left wing.

RC-12P

CLASS C

- The left engine panel separated from the aircraft during takeoff, damaging the engine cowling and top side of the left wing.

RQ-11

CLASS C

- During landing, the aircraft operator noticed a drop in generator and bus voltage, followed by a complete voltage loss. The unmanned aircraft (UA) struck the ground short of the runway.

RQ-7B

CLASS C

- The UA experienced an engine failure during flight. The recovery chute deployed and the aircraft was recovered.

GROUND

AMV

CLASS A

- A Soldier suffered fatal injuries when he was pinned while ground guiding an M916 semi-cab tractor to connect to an M870 trailer.

Personnel Injury

CLASS A

- A Soldier died when the Air Force CV-22A he was riding in as a passenger crashed.

- A Soldier suffered fatal injuries when he fell from a tree and struck a fence, rupturing his liver. The Soldier was transported to a hospital and died 11 days later. Alcohol was reported as a factor in the accident.

CLASS B

- A Soldier's finger was medically amputated at the first joint after it was pinched between two sets of dumbbells.

- A Soldier suffered a permanent partial disability injury when he struck his head while snowboarding off a designated jump ramp, resulting in two fractured vertebrae.

- A Soldier severed his right index finger when his hand was caught in the door of an M1151 HMMWV.

- A Soldier lost a portion of his middle finger when it was caught in the tailgate of a 5-ton dump truck during a construction project. At the

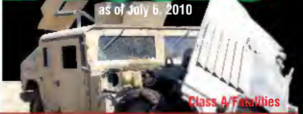
ARMY AVIATION LOSSES

Fiscal 2010
as of July 6, 2010

	Class A/Fatalities
ATTACK	2/1
RECON	3/4
UTILITY	6/6
CARGO	2/0
TRAINING	0/0
FIXED-WING	2/0
UAS	4/0
TOTAL	19/11

ARMY GROUND LOSSES

Fiscal 2010
as of July 6, 2010



	Class A/Fatalities
AMV	12/6
ACV	10/9
PERSONNEL INJURY includes weapons-handling accidents	16/16
FIRE/ EXPLOSIVE	2/1
PROPERTY DAMAGE	0/0
TOTAL	40/32

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time of the accident, the Soldier was attempting to remove a rock that was keeping the tailgate from closing.

DRIVING

POV

CLASS A

- A Soldier driving his privately owned vehicle (POV) collided with the rear of a tractor-trailer that was slowing to pull off the road because of a blown tire. The Soldier suffered fatal injuries.

- A Soldier was driving his POV when he crossed the center line of a highway and collided with an approaching vehicle. The Soldier was not wearing his seat belt and suffered fatal injuries.

POM

CLASS A

- A Soldier on block leave was riding his privately owned motorcycle (POM) when he lost control, struck a concrete median and was thrown into a light pole. The Soldier suffered fatal injuries.

- One Soldier was riding his POM while being followed by another Soldier in a POV when the rider went over a hill and lost control. The Soldier was fatally injured when he was thrown from his motorcycle and struck by the POV.

- A Soldier was riding a POM when he lost control on an exit ramp and was thrown from the bike. The Soldier was not wearing his personal protective equipment (PPE) and suffered fatal injuries.

- A Soldier had stopped to yield right of way at an intersection when her bike was struck by a U.S. Air Force-contracted passenger bus. She was pinned by the bus's rear wheels and fatally injured.

- A Soldier was riding his POM through an intersection when a pickup failed to yield right of way and entered his path of travel. The Soldier struck the truck and suffered fatal injuries.

- A Soldier was speeding on his motorcycle while attempting to pass a line of vehicles when one of the vehicles pulled into his path and clipped him. The Soldier lost control and crashed, suffering fatal injuries.

Pedestrian

CLASS A

- A Soldier got out of a cab after drinking and was struck by another vehicle, suffering fatal injuries.

- A Soldier was in the middle of a four-lane crosswalk controlled by signals when he was struck by a taxi and fatally injured.

- A Soldier had stopped to assist at an accident scene when he was struck from behind and killed while pushing a damaged vehicle off the road.

POV DRIVING LOSSES

Fiscal 2010

as of July 6, 2010	Class A/Fatalities
CAR	31/31
SUV/JEEP	7/8
TRUCK	4/4
MOTORCYCLE	22/20
PEDESTRIAN	8/9
OTHER*	2/2

*Includes: vans and ATVs

74 TOTAL DEATHS

Fiscal 2009: 83 3 Year average: 87

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ARAP

TRAVEL RISK TRiPS PLANNING SYSTEM

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